**Title**: Preliminary Efficacy of Weekly Regulating Together Intervention Delivered in an Outpatient Clinic

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**Introduction**:

Emotional dysregulation (ED), characterized by difficulty managing emotional responses and frequent emotional outbursts, is common among children with neurodevelopmental disorders (NDDs), including autism spectrum disorder (ASD; Restoy et al., 2024) and attention-deficit/hyperactivity disorder (ADHD; Graziano & Garcia, 2016). Among children with NDDs, particularly those with ASD, ED has been associated with social, academic, and mood challenges (Hill et al., 2006; Samson et al., 2012; Conner et al., 2020; Mazefsky et al., 2013). Regulating Together (RT) has been developed as a caregiver-assisted group intervention delivered twice a week over 5 weeks, designed to address emotional dysregulation by targeting emotion regulation skill development in children and teenagers with ASD and other NDDs in an intensive outpatient center (Shaffer et al., 2019). Emerging evidence shows promising treatment effects in children 8-12 years old including reductions in hospitalizations, improvements in reactivity, and increases in emotional regulation knowledge (Shaffer et al., 2023). However, biweekly sessions are not always feasible in outpatient clinics where there is a huge need for an emotion regulation intervention. Therefore, this study investigates the efficacy and effectiveness of RT delivered as a 10-week, once-weekly outpatient group treatment for children with ASD and other NDDs, as well as their parent/caregiver.

**Methods**:

The Regulating Together group treatment was offered to children and their caregiver’s who were clinically referred to an outpatient NDDs clinic due to the child’s emotion regulation challenges. The weekly group adhered to the original RT child curriculum as described in Shaffer et al., 2019, with the exception that the group was offered 1x/week over 10 weeks. A sample of 29 participating children, ages 8-12 years (M = 9.41, SD = 1.27) had a diagnosis of at least one or more NDDs (both ASD and ADHD = 17; ASD only = 7; ADHD only = 4) and many children (n= 13) had at least one co-occurring psychiatric disorder (e.g., depression/anxiety). All parents completed questionnaires about their children’s demographic information and current behaviors before the first session and again during the last session, including the Emotion Dysregulation Inventory (EDI) and the Behavior Inflexibility Scale (BIS). To understand the group effect, paired sample t-tests were conducted with EDI subscale scores (reactivity and dysphoria) and BIS total scores as dependent variables. Correlations between the change scores (i.e., differences between post- and pre-treatment scores) on the two measures were also examined.

**Results**:

Parent-reported scores on the EDI reactivity scale decreased significantly from pre- to post-treatment (t = -3.14, df = 27, p = 0.004). There was no significant change observed on the EDI dysphoria scale (t = -1.11, df = 27, p= 0.27) or the BIS (t = -1.92, df = 27, p = 0.065). Correlation analyses of change scores revealed a range of positive relationships: strong positive correlation between dysphoria and inflexibility (r = 0.66), moderate positive correlation between reactivity and dysphoria (r = 0.59), and a small positive correlation between reactivity and inflexibility (r = 0.35).

**Discussion:**

Preliminary results from the less intensive RT group intervention suggest meaningful gains in the regulation of negative emotions post-treatment. Our finds suggest that the 1x/week frequency is at least similarly effective as the 2x/week curriculum in reducing emotional reactivity (Shaffer 2023). The observed correlations between changes in dysphoria and inflexibility scores could be driven by the little-to-small changes in both domains, as indicated by the nonsignificant pre- to post-treatment changes on these scales. Given the RT curriculum’s limited focus on behavioral flexibility, it is possible that the RT group does not necessarily impact these domains immediately. Future analyses include understanding the impact of individual characteristics on treatment responses to the RT intervention and the longer-term effect of the intervention. Additionally, future research should continue to explore the efficacy of adapting the RT curriculum to meet the needs of children with varying acuity in emotion dysregulation and varying levels of cognitive and language abilities.

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